

## **REMARKS**

The foregoing amendment and the following remarks are responsive to the Office Action mailed May 19, 2003 for the parent application 09/997,432 filed November 29, 2001. Applicant has amended Claims 1, 15, 13, 18 and 20. It is thus respectfully submitted that as amended all the pending claims are allowable.

### **Objection Over the Drawings**

In Figure 2, a broken view is included to show the slits 26 formed on the cover member 20 (which is blocked by the upper anterior member 38 in the front view). Therefore, every feature of the present invention specified in the claims is shown in the drawings.

### **Rejection Under 35 U.S.C. 102(b)**

*Claims 1-4, 6-9 and 16-17 were rejected under 35 U.S.C. 102(b) as being anticipated by Ciobanu et al. (US 5,970,801).*

As shown in Figures 1-10 and col. 5, lines 20-22, Ciobanu et al. discloses a deflection-limiting surface 50. The deflecting-limiting surfaces 50 angle away from each other to form an angled notch 52.

However, Ciobanu et al. fails to teach the deflection-limiting surfaces 50 being bendable in response to movement of the cover member as claimed in Claim 1. As Ciobanu et al. fails to teach every element as claimed, the rejection is respectfully traversed.

Claims 2-4, 6-9 and 16-17 are dependent on Claim 1 and are believed patentable over Ciobanu et al.

### **Rejection Under 35 U.S.C. 103(a)**

*Claims 5, 10-15 and 18-25 were rejected under 35 U.S.C. 103(a) as being unpatentable over Ciobanu et al. (US 5,970,801)*

Regarding Claim 5, Ciobanu et al., by specifically discloses the flow-limiting members 50 angle away from each other to form an angled notch 52 having an apex along a line that is perpendicular to the axis of the first attachment pin 38a and subtending an angle of 30 degrees (col. 5, lines 21-25). Further, as shown in Figures 2 and 4, Ciobanu discloses that when the cover member 44 is in the open position, the cover member 44 is abutting and parallel to one of the flow-deflecting surfaces 50, and when the cover member 44 is in the closed position, the cover member 44 is spaced apart from the flow-deflecting surfaces 50 with an angle. Therefore, Ciobanu et al. teaches away “the cover member and the flow-limiting member being engaged to the inner wall in a **spaced apart and parallel relation** to each other **when the cover member is in the closed position**” as claimed in Claim 5.

Regarding Claims 10 and 11, Ciobanu only discloses the flapper being made of magnetizable metal, but fails to teach the flow-limiting member being made of magnetizable metal. Ciobanu discloses the deflection of the flapper, but also fails to teach the flow-limiting member being deflectable. In contrast, in Ciobanu, the deflection-limiting surfaces 50 is used to limits the angular flexing of the hinge portion 46 of the flapper 44 (col. 8, lines 10-12). There is no teaching or suggestion for one of ordinary skill in the art to modify such **deflection-limiting** surfaces 50 into deflectable surfaces.

Regarding Claim 12, Ciobanu discloses the slits formed on the hinged portion 46 of the flapper 44 in Figures 5 and 6, however, fails to disclose any slits formed on the

flow-limiting member. Similar to the above, there is no teaching or suggestion of such flow-deflection surfaces 50 to be deflectable. Consequently, no hinge portion is required or defined on the deflection-limiting surface 50. Therefore, there is no motivation for one of ordinary skill in the art to modify such supporting plate 48 or such deflecting-limiting surfaces 50 to provide slits thereon.

Regarding Claim 13, as stated in the Office Action, Ciobanu fails to teach the anterior member engaging the cover member at one side of the cover member. Further, as acknowledged by the Examiner, Ciobanu discloses a bi-lateral flow sensor only. Therefore, there is no concrete evidence for one of ordinary skill in the art to modify the flow-limiting plate 48 into the claimed anterior member.

The Examiner must not only explain the motivation for modifying reference, but must point to some concrete evidence in the record supporting the motivation to modify. As an administrative tribunal, the Board clearly has expertise in the subject matter over which it exercises jurisdiction. The expertise may provide sufficient support for conclusions as to peripheral issues. With respect to core factual findings in a determination of patentability, however, **the Board cannot simply reach conclusions based on its own understanding or experience – or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point some concrete evidence in the record in support of these findings.** To hold otherwise would render evidence on the record a meaningless exercise. [*In re Zurko*, 59USPQ2d 1693, 1697 (Fed. Cir. 20010)]. Here, there is no explanation of the motivation to modify the Ciobanu reference, and there is no concrete evidence in the record on which to base those

modifications. The Examiner has not met the burden needed to establish even a *prima facie* case of obviousness. The rejection over Claim 13 is thus respectfully traversed.

Claim 14 is dependent on patentably distinguished Claim 1 and is believed patentable over Ciobanu.

Regarding Claims 15 and 20, as Ciobanu discloses a bi-lateral flow sensor only, the cover member disclosed thereby is particularly designed to be deflectable bi-laterally. Therefore, there is no suggestion or teaching for one of ordinary skill in the art to modify the bi-lateral deflectable cover member into a cover member deflectable towards a single direction as claimed in Claims 15 and 20.

Regarding Claim 18, as stated by the Examiner, Ciobanu fails to teach the anterior member adjacent to one side of the cover member and **at least one fixed flow orifice for allowing fluid to flow therethrough**. As claimed, the anterior member adjacent to one side of the cover member allows the cover to deflect/bend towards the flow-limiting member only, while the fixed flow orifice allows the fluid with non-zero fluid rate to flow through the cover member without moving and bending the cover member. In contrast, though a gap is formed between the flapper 44 and the annular member 42 as shown in Figures 5-6, Ciobanu specifically teaches that such gap is minimized such that **at non-zero fluid flow rate, the flapper is deflected angularly out of the plane of the fluid flow orifice**. That is, as disclosed by Ciobanu, the flapper is deflected angularly whenever the fluid flow rate is non-zero. Such teaching of Ciobanu teaches away the fixed orifice **allowing the fluid with non-zero flow rate to flow therethrough when the fluid flow fails to extend the cover member towards the open position**” as claimed in Claim 18.

Claims 19, 22-25 are dependent claims of patentably distinguished Claim 18 and are believed patentable.

**Newly Added Claims**

In Claim 26, a multi-stage variable flow obstruction sensor for measuring a fluid flow in an enclosed housing comprises an anterior member and a cover member collectively defining at least one fixed flow orifice such that when the velocity of the fluid flow exceeds a first non-zero velocity, the cover member is biased in the closed position with respect to the aperture. The sensor also comprises a flow-limiting member so disposed and configured that before the fluid flow exceeds the first non-zero velocity, the cover member being spaced apart therefrom, when the fluid flow exceeds the first non-zero velocity, the cover member starts bending towards the flow-limiting member until being in contact therewith, and when the fluid flow exceeds a second non-zero velocity, both the cover member and the flow-limiting member bend to an open position substantially parallel to the fluid flow, wherein the second non-zero velocity is faster than the first non-zero velocity.

Ciobanu et al. discloses a bi-lateral flow sensor in which the flow-limiting members are formed adjacent both front and back surfaces of the cover members. Ciobanu fails to disclose a fixed flow orifice allowing fluid flow with a non-zero velocity flowing through the cover member when the cover member is biased in the closed position. Ciobanu further fails to disclose the flow-limiting member so positioned and configured that both the cover member and the flow-limiting bend in response with the fluid flow exceeding the second non-zero velocity.

## CONCLUSION

In view of the foregoing, the application is believed to be in condition for allowance. Entry of the preliminary amendments and issuance of a Notice of Allowance is therefore respectfully requested. Should the Examiner have any suggestions for expediting allowance of the application, please contact applicant's representative at the telephone number listed below. If any additional fee is required, please charge Deposit Account Number 19-4330.

Respectfully submitted,

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